



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

SEP 2 2015

Lieutenant Colonel John C. Morrow
District Engineer
U.S. Army Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

ATTN: Katherine Reyes; SPN-2014-125242

Subject: Redwood City Harbor Navigation Improvement Feasibility Report and Integrated Draft
Environmental Impact Statement/Environmental Impact Report [CEQ #20150186]

Dear LtC Morrow:

The U.S. Environmental Protection Agency (EPA) has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act, the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500 - 1508, and our review authority under Section 309 of the Clean Air Act.

The Draft Environmental Impact Statement (EIS) evaluates alternatives to improve navigation efficiency at Redwood City Harbor and San Bruno Shoal Channel. The U.S. Army Corps of Engineers (USACE) identifies Alternative A-3 in the Draft EIS as the National Economic Development (NED) Plan and the Tentatively Selected Plan (TSP). This alternative consists of deepening the Redwood City Harbor Channel and San Bruno Shoal Channel from -30 feet mean lower low water to -32 feet MLLW and disposing of 95 percent of dredged material at San Francisco Deep Ocean Disposal Site (SF-DODS), with the remainder, which is expected to be of unsuitable quality for ocean disposal, going to the Montezuma Wetland Restoration Project.

EPA has rated this alternative and the Draft EIS as EO-2 -- "Environmental Objections-Insufficient Information" (see Enclosure 1: "Summary of EPA Rating Definitions") because it appears that the TSP: (1) benefit/cost ratios do not reflect the full costs of SF-DODS or the history of inadequate maintenance dredging budgets for this harbor; (2) does not account for economic benefits appurtenant to beneficial reuse alternatives that help protect communities and ecosystems from sea level rise; and (3) lacks sufficient information on the chemical, physical and biological character of the material to be dredged, which is necessary to determine which disposal sites may be available. In addition, the TSP would not support the regional goals of the San Francisco Bay Long Term Management Strategy for Placement of Dredged Material (LTMS) regarding beneficial reuse, despite minimal or potentially non-existent cost differences. The analysis in the Draft EIS is insufficient to support EPA concurrence on the need for disposal at SF-DODS for this project, which is required by our regulations at 40 CFR 227.

The Draft EIS appears to base its identification of the NED Plan (and the TSP) on inaccurate or incomplete information, and EPA believes more complete evaluation may show that a beneficial reuse

alternative would instead constitute the NED Plan. We believe that information critical for this analysis should be provided in the Final EIS, including more accurate estimates of the costs and benefits of each alternative, the availability/feasibility of additional foreseeable reuse sites in the Bay Area (in particular, Alviso and/or Eden Landing), and more specific and detailed analysis of the air quality consequences and mitigation commitments associated with the various placement options.

The San Francisco Bay Area is designated as a "Marginal" nonattainment area for the 2008 ozone ambient air quality standard, and EPA is concerned that the estimated emissions for several of the project alternatives are very close to the general conformity *de minimis* threshold for nitrogen oxides (NOx). We recommend that USACE seriously consider requiring electric-powered dredges, where possible, to significantly reduce the proposed project's NOx emissions.

EPA urges the USACE, as a leader and partner in the LTMS, to explicitly incorporate maximizing beneficial reuse as a purpose for this new work project. We believe that placing dredged material at the foreseeably available Alviso and/or Eden Landing beneficial reuse sites may result in significantly lower air emissions and prove much more cost effective compared to the other placement sites considered in the Draft EIS. We recommend that USACE complete the air impacts and benefit/cost analyses for these sites and carry them forward as alternatives in the Final EIS. The Draft EIS states that, if either of these sites were to become available before construction of the RWC Harbor project begins, USACE would reconsider their use. If it is not possible to fully analyze these sites in the Final EIS, we recommend that the Final EIS provide further details regarding USACE's plans to conduct supplemental NEPA analysis to fulfill this commitment.

We appreciate the opportunity to review this Draft EIS. Please send one hard copy and one CD of the Final EIS to this office (mailcode ENF-4-2) when it is officially filed with EPA's *e-NEPA*. If you have any questions, please call me at (415) 972-3873, or have your staff contact Jeanne Geselbracht, our lead NEPA reviewer for this project, at geselbracht.jeanne@epa.gov or (415) 972-3853.

Sincerely,



Kathleen H. Johnson, Director
Enforcement Division

Enclosures:

- (1) Summary of EPA Rating Definitions
- (2) EPA's detailed comments on the Redwood City Harbor Draft EIS

cc: Michael J. Giari, Port of Redwood City

John Krause, California Department of Fish and Wildlife

Gary Stern, National Marine Fisheries Service

Anne Morkill, Don Edwards San Francisco Bay National Wildlife Refuge

Larry Goldzband, San Francisco Bay Conservation and Development Commission

Bruce Wolfe, California Regional Water Quality Control Board, San Francisco Bay

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

**U.S. EPA DETAILED COMMENTS ON THE REDWOOD CITY HARBOR NAVIGATION
IMPROVEMENT DRAFT EIS, SAN MATEO COUNTY, CA, SEPTEMBER 2015**

Range of Alternatives

Table 3-5 of the Draft Environmental Impact Statement summarizes a combination of various preliminary alternatives based on proposed dredging depths and disposal locations. Potential dredged material placement sites that were considered for alternatives include:

- Montezuma Wetland Restoration Project
- Cullinan Ranch Tidal Restoration Project
- Eden Landing Pond Complex
- Alviso Pond Complex
- San Francisco Deep Ocean Disposal Site (SF-DODS)

The Alviso and the Eden Landing sediment reuse sites are discussed in Chapter 4 and Appendix A of the Draft EIS. Even though the Draft EIS (p. 5-27) anticipates that use of either of these sites would be considered environmentally preferable/superior to using Cullinan Ranch, they were eliminated from further consideration because they are not currently permitted.

Consequently, environmental impacts were not fully described for these sites, and no benefit/cost ratio was calculated for them. The Draft EIS indicates, however, that the potential environmental impacts of using either Alviso or Eden landing would be similar to those associated with Cullinan Ranch, except that the air quality impacts and costs would, presumably, be substantially reduced. It appears that only modest additional evaluation would be needed to include Eden Landing and Alviso as full alternatives in the Final EIS.

We note that the South Bay Salt Pond Restoration Project, Phase 2 Draft Environmental Impact Statement/Report (EIS/EIR), which addresses the Alviso Pond Complex, was published in July and is currently out for public comment, and the Draft EIS/EIR for the Eden Landing Pond Complex is expected to be published early next year. While specific dates for when these two complexes will be able to accept material are unknown, we understand that they may be available by the time the Redwood City Harbor project is ready for construction. The Draft EIS (p. 6-1) states that, if either the Alviso or Eden Landing sites were to be permitted and available by 2018 and found to be cost effective, then use of these sites would be reconsidered. USACE has also indicated to EPA that supplemental analysis would be prepared pursuant to the National Environmental Policy Act.^[1]

Please note that EPA must concur on each use of SF-DODS (40 CFR 225-228). Both the full costs of site use (see comment below) and information on the practicability of using Eden Landing, Alviso, or other beneficial reuse sites at the time of the dredging will be relevant to EPA's consideration of any future request for concurrence on the need for disposal at SF-DODS.

Recommendation: Complete the benefit/cost and air impacts analyses for the Alviso and Eden Landing complexes and include these reuse sites as full alternatives in the Final

^[1] Personal communication, Tom Kendall, USACE, 8/12/15

EIS. If this is not possible, describe, in the Final EIS, USACE's plans to conduct supplemental NEPA analysis to fully consider these placement sites for the RWC Harbor project, should they become available before construction begins.

Costs of Alternatives

Alternative A-3 is identified in the Draft EIS as the National Economic Development (NED) Plan and the Tentatively Selected Plan (TSP). The NED Plan is the plan that maximizes net NED benefits, consistent with the Federal objective. The current analysis, however, does not accurately and fully represent the costs for disposal of material at SF-DODS, which would not be incurred at the other potential placement sites. Associated SF-DODS costs include those associated with required barge tracking, an 80 percent load capacity limit, potential weather delays associated with transport in the open ocean, and annual monitoring costs at SF-DODS. Recent USACE solicitations for maintenance dredging have identified up to several hundred thousand dollars in such exigent costs per episode for each project, depending on project volume.

Recommendation: We recommend that the Final EIS include all relevant costs associated with disposal of dredged material at SF-DODS and ensure that the benefit/cost calculations reflect these costs.

As shown in Table 6-1 of the Draft EIS, the difference in net annual benefits between Alternative A-1 (beneficial reuse at Cullinan Ranch) and the NED Plan (A-3: disposal at SF-DODS) is extremely small. The benefit/cost ratios for Alternatives A-1 and A-3 are almost identical (1.128 and 1.134, respectively), and the overall cost difference is only approximately ½ of 1 percent. These very minor differences may disappear when SF-DODS's exigent costs are considered. Even if they do not, the ocean dumping regulations at 40 CFR 227.16(b) note that alternatives are considered practicable "when they are available at reasonable incremental cost and energy expenditures, which need not be competitive with the cost of ocean dumping". The cost increment identified in the Draft EIS is not unreasonable, especially considering the benefits of reusing 1.7 million cubic yards of sediment for restoring endangered species habitat or helping provide a critical buffer against sea level rise.

The Draft EIS does not analyze the costs and benefits of the No Action Alternative. Such analysis is important for purposes of comparing the action alternatives against the baseline.

Recommendations: Provide the following information in the Final EIS:

- Specifically discuss regulations and policy concerning the USACE's ability to select an alternative other than the NED Plan when there are only minor incremental cost differences between them. Disclose more specifically the environmental and economic benefits associated with the reuse alternatives, even if those benefits would not be counted when identifying the NED Plan.
- Include the benefit/cost analysis for the No Action Alternative.

Sediment Suitability

The Draft EIS presumes that five percent of the dredged material would be considered unsuitable for placement at SF-DODS or as wetland cover under each alternative, and would have to be placed as foundation material at Montezuma; however, the basis for this percentage is unclear.

We believe that this assumption may not be accurate, based on recent sampling conducted for operations and maintenance dredging of the RWC Harbor channel, which shows elevated chemical constituents (particularly polychlorinated biphenyls and polycyclic aromatic hydrocarbons) and suggests that greater than five percent of the material could require alternative (more costly) handling. Testing to date indicates that the turning circle area could have the greatest volume of contaminated material. Furthermore, it is likely that most of the contaminated sediment will be encountered in the upper few feet of material dredged, which means that the shallower (-32 foot) alternatives would probably have a higher percentage of material needing expensive alternative handling than would the deeper (-34 and -37 foot) alternatives. Increased sediment management costs could affect the benefit/cost ratios currently described in the Draft EIS.

The Cullinan Ranch alternative in the Draft EIS includes all material going to that site, but Cullinan Ranch is not able to accommodate contaminated material. For the Final EIS, the Cullinan Ranch alternative (as well as Eden Landing and Alviso, if included as full alternatives) should reflect management of a reasonable percentage of unsuitable material at Montezuma.

Recommendations: Provide the following information in the Final EIS:

- Disclose recent Redwood City Harbor sediment testing data, and discuss the implications of this information in terms of the realistic volume of contaminated material that may need to be placed at Montezuma or another upland site under each alternative, as well as the potential costs of such placement.
- Discuss management of a reasonable percentage range of contaminated material under the Cullinan Ranch and other beneficial reuse alternatives.

Air Quality

It appears that, for the purpose of comparing emissions against the general conformity *de minimis* thresholds, the Draft EIS presumes diesel-powered clamshell dredging in RWC channel. It also appears that the number of dredge seasons that project construction would span is driven by an intention to keep NOx emissions below the general conformity *de minimis* threshold of 100 tons/year. We are concerned that the unmitigated and mitigated NOx emissions estimates for Alternative A-2 (reuse placement at Montezuma) -- 99.97 and 99.86 tons/year, respectively -- nearly exceed that threshold (Table A-7). The estimated NOx emissions for the TSP (sediment placement at SF-DODS) and Alternative A-1 (sediment placement at Cullinan Ranch) are somewhat lower (83 to 92 tons/year). We believe, however, that these estimates may be too low because (1) contaminated material cannot be placed at Cullinan Ranch and will need to go to Montezuma or another disposal site; and (2) if greater than five percent of dredged material is contaminated, transport of this additional material to Montezuma or another disposal site could result in increased emissions.

According to Appendix A to the Draft EIS (p. 14), all major motorized dredging equipment would be diesel-powered. Elsewhere, however, the Draft EIS states that the clamshell dredge operating in RWC channel could be either diesel-powered or electric-powered (p. 4-18), but no commitment is made regarding which power source would be used. The use of electric power for clamshell dredging in the RWC channel would reduce the NOx emissions of Alternatives A-1 and A-2 by 44 percent, as well as significantly reduce emissions of other criteria pollutants and

greenhouse gases (App. A, Att. 1). If material is placed at Eden Landing or Alviso, dredging could be conducted with a cutterhead dredge, which could be either diesel- or electric-powered. Dredged material could also be transported via temporary pipelines rather than dump scows and towboats, which would reduce air emissions. It is unclear whether the significant reduction in NOx emissions that could result from the use of electric-powered dredges might also facilitate reducing the number of dredging seasons, and concomitant costs, needed to meet the *de minimis* threshold.

Recommendations: In the Final EIS:

- Commit to the use of electric power for clamshell dredging in the RWC channel to significantly reduce air pollutant emissions from this portion of the project.
- Commit to the use of electric power for any cutterhead dredge used for the proposed project.
- Consider, in the benefit/cost analysis, the costs of dredging RWC channel and the number of dredging seasons needed under both the electric and diesel power scenarios. Any supplemental NEPA analysis involving cutterhead dredging should also include such an analysis.

The Draft EIS (p. ES-21) states, “When the EPA issues a Conformity Determination the USACE will be in compliance with the Clean Air Act.” EPA does not issue the conformity determination, as this is the responsibility of the USACE as the lead agency for this project.

Recommendation: In the Final EIS, rectify this statement and include the draft conformity determination, if one would be needed for this project. If a conformity determination would not be necessary, explain why not (e.g., confirm that none of the relevant *de minimis* thresholds would be exceeded under the project alternatives).

The Draft EIS (p. 4-13) states that the air quality management plan is required to ensure that annual project emissions would remain below the federal General Conformity threshold. The contractor would be required to describe its planned equipment use (including engine horsepower, age, load factors, and projected operating hours for all major equipment) and associated air emissions, and to document its compliance with the planned equipment use. Please note that if, at any point after a conformity determination or *de minimis* finding is made, the USACE determines that the proposed action would exceed the *de minimis* thresholds, a new conformity determination would be required (40 CFR 93.157(c)).¹

The Draft EIS indicates that, under Alternative A-1, all dredged material from the project would be placed at Cullinan Ranch. As stated above, however, only material deemed clean enough to be

¹ This situation is more specifically discussed in Question 34 from *Guidance for Airports: Questions and Answers* (2002) <http://www.epa.gov/airquality/genconform/documents/airport_qa.pdf>. While this guidance was developed by the Federal Aviation Administration and EPA for airport projects, you may find it useful for other types of projects such as the Redwood City Harbor project. (Please note that, in an April 15, 2010, EPA revised the general conformity rule (75 FR 17257); therefore, the references to regionally significant actions in Q/A #19 and 24 are no longer relevant.)

reused for wetland habitat could be placed here. The Draft EIS does not identify where material not meeting this criterion would be placed (e.g., Montezuma or other upland site). It is unclear, therefore, whether Alternative A-1 may have additional air emissions associated with transportation and handling of such dredged material at sites other than Cullinan Ranch.

Recommendation: We recommend that additional analysis of Alternative A-1 be conducted to determine air emissions associated with disposal or reuse of five percent, or more, of the dredged material at a site or sites other than Cullinan Ranch. The revised emissions estimates, and their comparisons against the *de minimis* thresholds, should be included in the Final EIS.

The Draft EIS (p. A-15) indicates that the landside emissions for placement at the Montezuma and Cullinan Ranch beneficial reuse sites are not included in the emissions estimates for this project because they were included in their respective wetland restoration EISs and would occur whether or not the Redwood City Harbor project delivers sediment to these sites. The Draft EIS does not confirm, however, that the landside emissions from placing 5,300 cubic yards/day (cyd) or 4,300 cyd of dredged material at either Cullinan Ranch or Montezuma, respectively, would be consistent with the magnitude and timing of emissions that were assumed in their respective EISs.

Recommendation: In the Final EIS, estimate the indirect emissions (in tons per year) associated with placement of dredged material in the Montezuma and Cullinan Ranch sites and compare them against the emissions that were estimated in the Montezuma and Cullinan Ranch wetland restoration EISs. If disposal rates for these sites were limited to keep air emissions below the general conformity *de minimis* thresholds for those projects, the Final EIS should identify the stated limits and indicate whether they are a factor in determining the number of dredge seasons each alternative would span.

The Draft EIS (App. A, pp. 15-17) describes the methodology for calculating operational emissions; however, we were unable to find the operational emissions calculations for either the No Action or action alternatives. Table 4-3 (p. 4-29) estimates the post-construction annual maintenance dredging volumes for each dredging option (-32, -34, and -37 feet), but the estimated criteria pollutant emissions associated with dredging and transporting those volumes are not provided. Furthermore, the Draft EIS provides neither the maintenance dredging volumes nor their associated emissions under the No Action alternative. Descriptions of existing and expected conditions under the No Action alternative, as well as the estimated air pollutant emissions associated with the different action alternatives, are necessary for a comparison of the indirect impacts of the project.

Recommendation: Include in the Final EIS the existing and expected maintenance dredging volumes and air pollutant emissions under the No Action alternative, as well as the estimated emissions associated with maintenance dredging under each of the action alternatives. In addition, please describe all commitments for mitigating air emissions during maintenance dredging operations over the project period.

The Draft EIS (App. A, p. 25) states that the proposed project would have a beneficial effect on operational transport emissions associated with Redwood City Harbor because emissions would be reduced as the number of vessel calls decrease. While the anticipated number of vessel calls under the various dredging options are provided in the Draft EIS (App. A, Table 8), we were unable to find the estimated air emissions associated with these vessel calls.

Recommendation: In the Final EIS, provide the estimated air emissions associated with vessel calls to the Redwood City Harbor under each of the dredging options, including No Action.

We note several informational errors in Table A-1 (App. A), which we recommend be rectified in the Final EIS:

- The table identifies annual and 24-hour sulfur dioxide National Ambient Air Quality Standards. EPA revoked these standards in 2010.
- The NAAQS for lead is $0.15 \mu\text{g}/\text{m}^3$ (3 month rolling average), rather than $1.5 \mu\text{g}/\text{m}^3$.
- The primary 24-hour NAAQS for PM_{2.5} is $12 \mu\text{g}/\text{m}^3$ (3-year average of the annual arithmetic mean), rather than $15 \mu\text{g}/\text{m}^3$.

We also note several informational errors in Table A-3 (App. A), which we recommend be rectified in the Final EIS.

- The San Francisco Bay Area is a “Marginal” nonattainment area for the 2008 ozone standard.
- The San Francisco Bay Area is a “Moderate” nonattainment area for the 2006 24- hour PM_{2.5} standard.
- Carbon Monoxide (CO) is not listed in the table. The San Francisco Bay Area was formerly a nonattainment area for the CO standard, but EPA approved a redesignation request for the area to attainment, based in part on the Agency’s approval of a CO maintenance plan for the area. The CO *de minimis* threshold, therefore, is 100 tons/year and we recommend that it be included in this table.
- CO should be included in the General Conformity evaluation for this action.

The following information is missing from the Draft EIS.

- Attachment 1 of Appendix A, which includes the air emissions calculations tables, is missing from the Draft EIS and should be included in the Final EIS. We were able to obtain a copy of Attachment 1 from USACE during our review, and we note that Table A-7 does not match the tables in Attachment 1. We recommend that inconsistencies among the tables be rectified.
- Information on CO is missing from Table A-7, and should be added in the Final EIS.
- Table 4-6 is incomplete. Please provide a complete table in the Final EIS.